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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,283	01/16/2002	Hun Gun Park	RPL-0026	2369

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FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER

LEFLORE, LAUREL E

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 12/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,283

Applicant(s)

PARK, HUN GUN

Examiner

Laurel E LeFlore

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

The content of paragraph [35] is already disclosed in paragraph [33] in reference to figure 8. Thus, line 1 of paragraph [35] stating that the contents of paragraph [35] are "not shown in drawings" is incorrect, and paragraph [35] is redundant.

Appropriate correction is required.

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it is greater than one page and has a length of more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims contain a step of a driving method for a plasma display in which a "plurality of sub-fields include sub-fields, which have the address period applying the scan pulse to the scan electrodes to the number of N in order of 1, 2, ..., N-1 and N, and sub-fields, which have the address period applying the scan pulse to the scan electrodes in order of N, N-1, ..., 2 and 1", or a plurality of sub-fields which apply the scan pulse to the scan electrodes in order of 1, 2, ... and N/2 and (N/2)+1, ... and N with a second plurality of sub-fields applying the scan pulse in order of N/2, ..., 2 and 1 and N, N-1, and (N/2)+1. Thus, the order of the electrodes to which the scan pulse is applied is opposite for the two pluralities of sub-fields; the scan pulse is applied in two different directions.

However, the specification does not enable one skilled in the art to apply the scan pulse to electrodes in two different directions. There is no depiction of circuitry or description of a scan driver that would apply the scan pulse to the scan electrodes in two different directions. Therefore, one of ordinary skill in the art could not arrive at the claimed invention without undue experimentation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, as best as they are understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa et al. 6,603,446 B1.

In regard to claim 1, Kanazawa discloses an invention that is similar to that which is claimed in claim 1. See column 5, lines 44-46, referring to figure 2, disclosing a pair of glass substrates (elements 5 and 6) on one of which is formed a plurality of intersecting address electrodes (element 4) and scan electrodes (See column 6, lines 2-3 disclosing that the Y electrodes are scan electrodes). See column 6, lines 33-34, in reference to figure 3, disclosing that "each field is divided into eight sub-fields". Thus, one field of input video signal is divided into a plurality of sub-fields. See column 6, lines 46-52, disclosing that each of the sub-fields has a respective brightness weight.

Kanazawa further discloses the step of applying a scan pulse to the scan electrodes (Refer to figure 1. See column 6, lines 2-3, disclosing, "The Y electrodes are connected individually to a scan driver 12.") and applying an input video data signal pulse to the plurality of address electrodes (Refer to figure 1. See column 5, line 66 to column 6, line 2, disclosing an address driver applying and addressing pulse to address electrodes.) The application of the scan pulse and address pulse are simultaneous as discloses in column 6, lines 17-20, which

discloses that the address and scan drivers are controlled by a control circuit controlled by a synchronizing signal. See column 6, lines 34-39, disclosing that each sub-field has an address and sustain period.

Kanazawa further discloses that the plurality of sub-fields include two sets of sub-fields, which apply the scan pulse to the scan electrodes differently. Kanazawa does not disclose that, of these two sets of sub-fields, one applies the scan pulse to the scan electrodes in order of 1, 2, ..., N-1 and N, while the other does so in the order of N, N-1, ..., 2 and 1.

Kanazawa does disclose, however, that that "a driving sequence for one frame...is divided into a driving sequence for an odd field and that for an even field." Kanazawa is silent as to whether the scanning pulse is applied in a drive sequence from 1 to N or from N to 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanazawa by having one driving sequence be from 1 to N and the other driving sequence be from N to 1. One would have been motivated to make such a change in order to specify a direction of the driving sequence, given that there are already two separate driving sequences and scan drivers (see figure 7) for applying the scan pulse to the scan electrodes in different directions, particularly since Kanazawa appears capable of performing the driving sequence in either direction and it would appear to be a matter of routine design choice as to which direction it should be driven.

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8. In regard to claims 2 and 3, Kanazawa discloses that the "scan driver 12 is divided into a portion for driving the odd Y electrodes...and a portion for driving the even Y electrodes". (Refer to figure 1 and see column 6, lines 2-5.)

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakahara et al. 6,531,819 B1, which discloses separate odd and even scan drivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

LEL


JOSEPH MANCUSO
PRIMARY EXAMINER